

Cross Examination of Pattern Experts

**This is not Scientific
Evidence –
It is Subjective**

In other words : Do they
have specially trained
eyeballs









Do you have to Cross

Resources for Cross:

Entire Expert file, notes, raw data

Lab Certification

Lab Protocols

CV / Statement of Qualifications

Proficiency Testing

Learned Treatises

Motions / Articles

Prior Testimony / Transcripts

1:52

LTE

CANCEL

Product images

STRENGTHENING
**FORENSIC
SCIENCE**
IN THE UNITED STATES

A PATH FORWARD

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

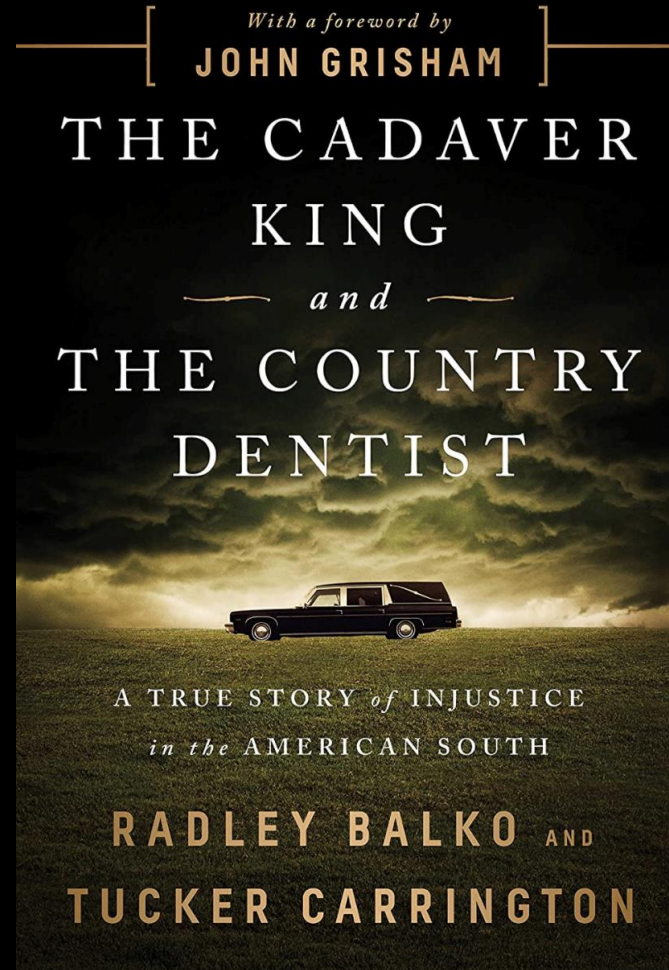


2:00 ↗

LTE 🔋

CANCEL

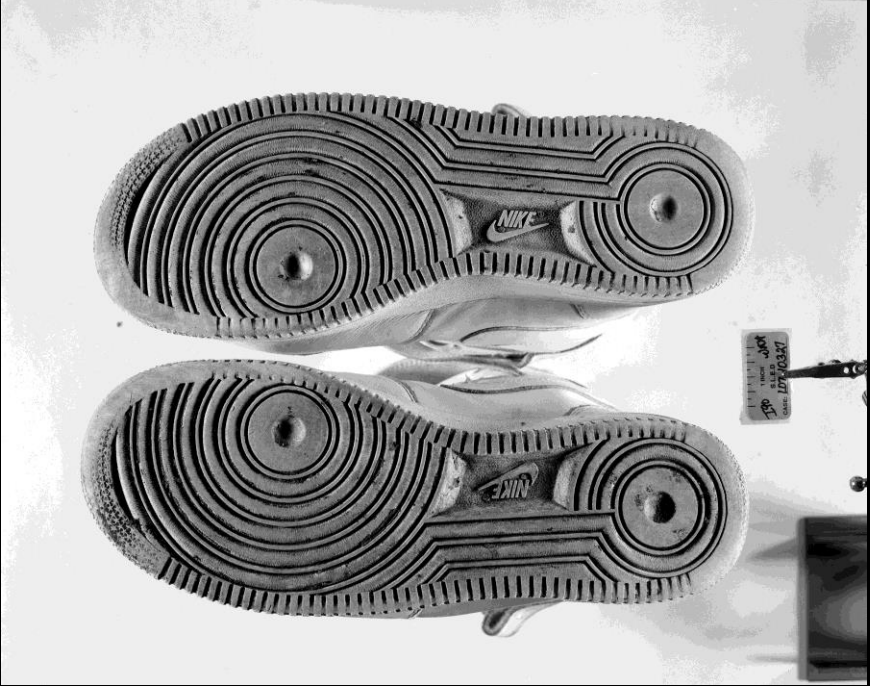
Product images



**Do You Need
Your own
Expert?**

Jones / Council

Match vs. Consistent





Confirmation Bias

A man with long, wavy brown hair and a beard is sitting at a table. He is wearing a grey t-shirt and has a small black device clipped to his shirt. He is looking slightly to the right with a neutral expression. On the table in front of him is a bowl containing several red and black fruits. To his right, there is a laptop and some papers. The background is slightly blurred, showing what appears to be an indoor setting with other people and equipment.

**YEAH, WELL, YOU KNOW,
THAT'S JUST, LIKE,
YOUR OPINION, MAN.**

PCAST, “Report to the President & Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods” at 31 (Sept 2016)



Definition:

“ways in which human perceptions and judgments can be shaped by factors other than those relevant to the decision at hand”

Includes:

- 1) Confirmation Bias
- 2) Avoidance of Cognitive Dissonance
- 3) Contextual Bias

SOURCES OF BIAS



Dror, I., "Cognitive Neuroscience in Forensic Science: Understanding and Utilizing the Human Element," Phil. Trans. R. Soc. B 370 (2015)

CONTEXTUAL BIAS: DEFINED

“[W]hen decision-makers are influenced by exposure to extraneous information that is not necessary to make the decision at hand.”

-- Reese, “Techniques for Mitigating Cognitive Biases in Fingerprint Identification,” 59 UCLA L.Rev. 1252, 1260 (2012)

“Task-irrelevant information” or

“Domain-irrelevant information”

CONTEXTUAL BIAS: UNCONSCIOUS AND UNAVOIDABLE

“a natural and automatic feature of human cognition that can occur in the absence of self-interest and operate without conscious awareness.”

-- Kassin et al., “The Forensic Confirmation Bias: Problems, Perspectives, and Proposed Solutions,” J. of Applied Research in Memory & Cognition 2, 42-52 at 44 (2013).

“Cognitive biases affect all examiners, not just ‘bad apples.’”

-- Dror & Cole, “The Vision in ‘Blind’ Justice: Expert Perception, Judgment, and Visual Cognition in Forensic Pattern Recognition,” Psychonomic Bull. & Rev. 17, 161-167 at 162 (2010).



CONTEXTUAL BIAS: INCREASED RISK



Risk is greater when . . .

(a) Analysis involves subjectivity

(b) Underlying Data is Ambiguous



NATIONAL COMMISSION ON FORENSIC SCIENCE

NIST
National Institute
of Standards
and Technology

Ensuring That Forensic Analysis is Based Upon Task-Relevant Information

Type of Work Product: Views Document Issued by Human Factors Subcommittee

Statement of the Issue:

What is the proper evidentiary basis for a forensic science opinion? In other words, what facts should forensic scientists consider and what facts should they not consider when drawing conclusions from physical evidence? These are questions of fundamental importance to forensic science. The need for clear answers has become increasingly important as forensic scientists are being called on to address the problem of contextual bias.

It is the view of the National Commission on Forensic Science that:

1. Forensic scientists should rely solely on task-relevant information when performing forensic analyses.
2. The standards and guidelines for forensic practice being developed by the Organization of Scientific Area Committees (OSAC) should specify what types of information are task-relevant and task-irrelevant for common forensic tasks.
3. Forensic laboratories should take appropriate steps to avoid exposing analysts to task-irrelevant information through the use of context management procedures.

-- NCFS voted to adopt on 12/8/15
(<https://www.justice.gov/ncfs/file/641676/download>)



REPORT TO THE PRESIDENT
Forensic Science in Criminal Courts:
Ensuring Scientific Validity
of Feature-Comparison Methods

Executive Office of the President
President's Council of Advisors on
Science and Technology

September 2016



“Studies have shown that cognitive bias may be a serious issue in forensic science.” (p. 31)

Proposals to Mitigate (p. 32):

-- manage flow of info w/i crime lab to reduce exposure to task-irrelevant info

-- work in linear fashion

Re: latent print analysis (p. 102):

-- though method is “foundationally sound,” “there are a number of important issues related to its validity as applied, incl. (a) confirmation bias; and (b) contextual bias

SINCE 2017 . . .

- US v. Simmons, 2018 U.S. Dist. LEXIS 18606 (E.D. Va . Jan. 12, 2018) (rejecting cognitive bias challenge to firearm toolmark examiner because bias is “question of weight and credibility, rather than admissibility in the Court’s role as gatekeeper”)
- US v Wells, 2019 U.S. Dist. LEXIS 118915 (Alaska D. Ct. July 7, 2019) (precluding defense digital evidence expert from testifying about confirmation by government expert because defense expert not qualified in field of cognitive bias, but permitting defense psychologist to testify about confirmation bias)
- US v Bonds, 922 F.3d 343, 345-346 (7th Cir. 2019) (trial judge did not err in precluding defense from eliciting evidence about error in Brandon Mayfield case but noting PCAST Report “provides the defense bar with paths to cross-examine witnesses who used the ACE-V approach” about confirmation and contextual bias)
- Commonwealth v. Wardsworth, 482 Mass. 454, 477 (2019) (noting that allowing police officer to testify, before showing surveillance video to jury, that people in video are dressed similarly to defendants “risked creating a cognitive bias before the jurors saw the footage for the first time” and citing Itiel Dror’s work)

LITIGATING CONTEXTUAL BIAS

- Discovery Requests
- Hire Experts
 - In the Field: Avoid Biasing Info!
 - Cognitive Psychologists
- Move for Court Orders for Non-Biasing Procedures
- Daubert / Frye Challenges
- Request for Jury Instructions
- Implications for Harmless Error Analysis?

State v. Canzater



SOUTH CAROLINA LAW ENFORCEMENT DIVISION
FORENSIC SERVICES LABORATORY REPORT

HENRY D. MCMASTER
Governor



MARK A. KEEL
Chief

Inv. Mark W Vinson
Columbia Police Department
#1 Justice Square
Columbia, SC 29201

LATENT PRINTS
November 01, 2018
SLED LAB: L11-00430
Your Case No: 2011000074
Incident Date: 01/09/2011
[V-Deceased] Candra Alston
[V-Deceased] Malaysia Boykin

This is an official report of the South Carolina Law Enforcement Division Forensic Services Laboratory and is to be used in connection with an official criminal investigation. These examinations were conducted under your assurance that no previous examinations of person(s) or evidence submitted in this case have been or will be conducted by any other laboratory or agency.

Mark A. Keel, Chief
South Carolina Law Enforcement Division

SUPPLEMENTAL

ITEMS OF EVIDENCE:

Item: 175 One (1) set of known palm prints bearing the name Canzater, Kenneth Jr from California DOJ.

RESULTS:

IDENTIFIED with Item 324 / Canzater, Kenneth Jr.

Item: 311 One (1) set of known palm print cards bearing the name Canzater, Kenneth (FBI #710998VB7).

RESULTS:


IDENTIFIED with Item 324 / Canzater, Kenneth Jr.

Item: 324 Inked major case prints bearing the name Canzater, Kenneth Jr.



AN ASCLD/LAB-International ACCREDITED TESTING LABORATORY SINCE 09/19/2014

P.O. Box 21398, Columbia, South Carolina 29221-1398 Phone (803) 896-7300 Fax (803) 896-7351



Item 175 was received via email from Inv. Mark Vinson on 04/15/13. The contents of the email have been added to the case documentation.

Item 175: One (1) set of known palm prints bearing the name Canzater, Kenneth Jr B/M DOB 11/10/1983 from California DOJ, Bureau of Criminal Identification and Information.

Received email from Inv. Vinson on 04/15/13 with additional suspects to be compared with Items 65.1 and 65.3. This list (list #3) has been added to case documentation.

The following items were received from SLED AFIS on 04/16/13:

Item 176: One (1) set of known palm print cards bearing the name Black, Lewis Alvin SID# SC00838340.

Item 177: One (1) set of known palm print cards bearing the name Brown, Lacory R SID# SC01964129.

Item 178: One (1) set of known palm print cards bearing the name Pringle, Jermaine C SID# SC01544055.


Item 179: One (1) set of known palm print cards bearing the name Sutton, Isaac Jerome SID# SC01483134.

Item 180: One (1) set of known palm print cards bearing the name Lyerly, Ray A SID# SC01409703.

Item 181: One (1) set of known palm print cards bearing the name Grant, Freddie SID# SC00787680.

Visual comparison of Items 65.1 and 65.1 with Items 175-181.

Results:



Item 65.1: NI with Item 168/Jones, William L
NI with Item 169/Green, Alexander James
NI with Item 170/Tucker, Marshay Yael
NI with Item 171/Johnson, Tandalaya B
NI with Item 172/Reeves, Larry
NI with Item 173/Alston, Carl R
NI with Item 174/Laverly, Ray A
NI with Item 175/Canzater, Kenneth Jr
NI with Item 176/Black, Lewis Alvin
NI with Item 177/Brown, Lacory R
NI with Item 178/Pringle, Jermaine C
NI with Item 179/Sutton, Isaac Jerome
NI with Item 180/Lyerly, Ray A
NI with Item 181/Grant, Freddie
AFIS suitable

From: Vinson, Mark [<mailto:mwvinson@columbiasc.net>]

Sent: Wednesday, February 08, 2017 3:09 PM

To: Mears, Kimberly

Subject: Brook Pines L11-00430

Kimmie,

Please check the following:

Andrea Kelley SC01401636



RCSD finished the Y DNA testing and we had four matches. Kenneth Canzater, Marcus Mack, and Deandre Seymour have already had their palms checked. I will be submitting palms from James Pressley this afternoon. All four had voluntarily submitted DNA and all admitted to having been inside the incident location.

Inv. Mark W. Vinson
Columbia (SC) Police Department
Cold Case Unit
1 Justice Square
Columbia, SC 29201
Office: (803) 545-3602
Front Desk: (803) 545-3500

SOUTH CAROLINA LAW ENFORCEMENT DIVISION
FORENSIC SERVICES LABORATORY REPORT

HENRY D. MCMASTER
Governor



MARK A. KEEL
Chief

Inv. Mark W Vinson
Columbia Police Department
#1 Justice Square
Columbia, SC 29201

LATENT PRINTS
February 17, 2017
SLED LAB: L11-00430
Your Case No: 2011000074
Incident Date: 01/09/2011
[V-Deceased] Candra Alston
[V-Deceased] Malaysia Boykin

This is an official report of the South Carolina Law Enforcement Division Forensic Services Laboratory and is to be used in connection with an official criminal investigation. These examinations were conducted under your assurance that no previous examinations of person(s) or evidence submitted in this case have been or will be conducted by any other laboratory or agency.

Mark A. Keel, Chief
South Carolina Law Enforcement Division

CORRECTED

ITEMS OF EVIDENCE:

Item: 65.1 Latent impression represented in photograph contained on Item 65.

RESULTS:

NOT IDENTIFIED with Item 168 / Jones, William L.
NOT IDENTIFIED with Item 169 / Green, Alexander James.
NOT IDENTIFIED with Item 170 / Tucker, Marshay Yael.
NOT IDENTIFIED with Item 171 / Johnson, Tandalaya B.
NOT IDENTIFIED with Item 172 / Reeves, Larry.
NOT IDENTIFIED with Item 173 / Alston, Carl R.
NOT IDENTIFIED with Item 174 / Laverly, Ray A.
Inconclusive based on the quality of Item 175 / Canzater, Kenneth Jr.
NOT IDENTIFIED with Item 176 / Black, Lewis Alvin.
NOT IDENTIFIED with Item 177 / Brown, Lacory R.
NOT IDENTIFIED with Item 178 / Pringle, Jermaine C.
NOT IDENTIFIED with Item 179 / Sutton, Isaac Jerome.
NOT IDENTIFIED with Item 180 / Lyerly, Ray A.
NOT IDENTIFIED with Item 181 / Grant, Freddie.
AFIS Searched

